

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/053681 A2

(51) International Patent Classification⁷: **A61K 31/366**,
31/336, 31/40, 31/405, 31/663, A61P 3/10, 19/00

(21) International Application Number:
PCT/GB2004/005019

(22) International Filing Date:
29 November 2004 (29.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0327742.3 28 November 2003 (28.11.2003) GB

(71) Applicant (*for all designated States except US*): **ISIS IN-
NOVATION LIMITED** [GB/GB]; Ewert House, Ewert
Place, Summertown, Oxford, Oxfordshire OX2 7SG (GB).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **SEWELL, Andrew**
[GB/GB]; University of Oxford, Nuffield Department of
Clinical Medicine, Peter Medawar Building, South Parks
Road, Oxford OX1 3SY (GB).

(74) Agent: **LORD, Hilton, David**; Marks & Clerk, 90 Long
Acre, London WC2E 9RA (GB).

(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished
upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: NOVEL USES OF KNOWN DRUGS

(57) Abstract: Statins are able to block the mevalonate pathway at an early stage, preventing build up of isopentenyl pyrophosphate by nitrogen containing bisphosphonates by blocking the pathway further downstream, with medicaments containing statins being administered at an appropriate time being able to thereby prevent the build up of IPP, which has been found to activate $\gamma\delta$ T cells and cause the acute phase response associated with the nitrogen containing bisphosphonates.

WO 2005/053681 A2